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SUPERFUND PRELIMINARY SITE CLOSE OUT REPORT AND EXPLANATION OF SIGNIFICANT DIFFERENCE

Yakima Plating Superfund Site
Yakima, Washington

I. INTRODUCTION

This Preliminary Close-Out Report documents that EPA has completed construction activities at the Yakima Plating Site in accordance with OSWER Directive 9320.2-3C. EPA and the State of Washington Department of Ecology conducted a final inspection on September 30, 1992, and determined that the contractors have completed the remedy in accordance with the Record of Decision (ROD). Activities necessary to achieve site completion are underway.

II. SUMMARY OF SITE CONDITIONS

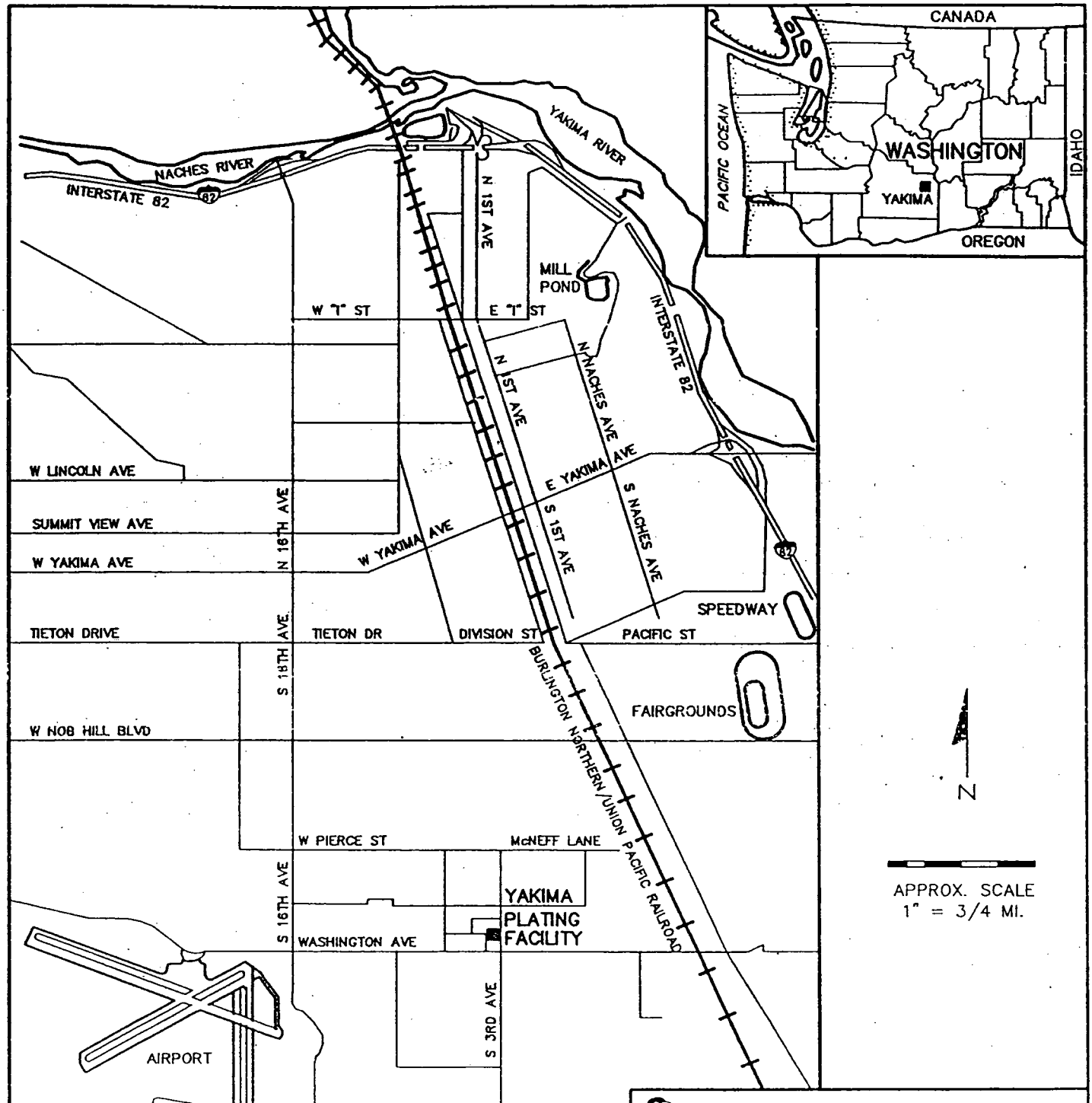
Site Location and History

The Yakima Plating site is located in Yakima, Washington. The Yakima Plating facility occupied the western 0.94 acres of a 2-acre parcel shared with a separate auto repair business. The site is located approximately 3 miles northeast of the Yakima Municipal airport in central Yakima County, Washington in a mixed light commercial and residential neighborhood (See Figure 1).

The facility conducted electroplating operations of automobile bumpers from the early 1960's until 1990. Yakima Plating operated from three buildings including a concrete block structure used for plating operations, a corrugated metal-sided structure used as an office and storage, and a wood-frame, plywood-sided structure also used for storage. During its' operation, the facility discharged plating wastes to an on-site sedimentation tank and drain field. These wastes contained a variety of metals including nickel, cadmium and chromium.

Remedial Planning/Pre-Record of Decision (ROD) Activities:

A Preliminary Assessment (PA) was completed at the Yakima Plating facility by the Washington Department of Ecology in 1984. The PA indicated that there was a fairly high potential that shallow groundwater was contaminated with some metals. As a result of this determination a site investigation was conducted in June 1986 by Ecology and Environment (E&E), an EPA contractor. This investigation indicated that the drainfield likely contained elevated concentrations of several inorganic substances, particularly chromium, copper, nickel, zinc, and cyanide, which had the potential to migrate from the drainfield into the



ecology and environment, inc.
International Specialists in the Environment

FIGURE 1
LOCATION MAP

YAKIMA PLATING
YAKIMA, WASHINGTON

PRJCT MGR:	APPROVED BY:	PRJCT/JOB NO.	PAN NO.
LD	LD	ZP 5901	CORP

DRAWN BY:	DATE:	DIR NO.	CAD DWG NO.	REV.
EGM	07-28-92	CORP.ZP5901	0121LM.DWG	1

surrounding soils and groundwater. Findings of this investigation were presented in a report dated October 29, 1986 (Site Inspection Report for Yakima Plating Company, Inc.). As a result of the findings of this study, the Yakima Plating site was proposed to the National Priority List (NPL) on June 24, 1988 (53 FR 23978), and was added to the final list on March 31, 1989 (54 FR 13296).

On May 7, 1990, E&E initiated field work for the Remedial Investigation/Feasibility Study (RI/FS) at the site. The results of this investigation indicated elevated levels of metals in surface and subsurface soils, elevated levels of metals in two groundwater monitoring wells, the presence of a variety of containerized plating related wastes, and plating related wastes associated with the drainfield system (tanks and associated drainfield pipe, as well as associated gravel). The soil contaminants posed the greatest risk to human health through possible direct contact and as a continuing potential source of ground water contamination. With the exception of two wells[1], all on-site and off-site monitoring wells had relatively low levels of organics and inorganics and were below federal and state drinking water standards.

Record of Decision:

A Record of Decision for the site was issued on September 30, 1991, which selected the following remedy:

- Liquids and sludges that were in tanks and containers would be removed and treated and disposed off-site at a permitted hazardous waste facility.

- Underground tanks (sedimentation and septic tanks) would be uncovered and decontaminated using either a solvent or water wash solution and abandoned in place. Liquids/sludges generated during the decontamination would be treated and disposed at an off-site hazardous waste facility. Underground pipes and drainlines would be excavated and disposed of with contaminated site soils at a permitted hazardous waste landfill.

- Contaminated soils above cleanup levels would be excavated, and disposed of at a permitted hazardous waste landfill.

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[1] Analytical results from MW-2 indicated elevated levels above the State of Washington Model Toxics Control Act (MTCA) method B groundwater levels. MW-7 had elevated levels of chromium, above federal and state standards, during one sampling round. Both wells exhibited an insurgence of silt, which may have affected the results.

- Since contaminated soils above MTCA cleanup levels could remain beneath the Yakima Plating building institutional controls would be implemented to minimize potential exposure to release of hazardous substances. The purpose of these controls is to restrict groundwater use at the site, protect future workers in the plating building from residual contamination on walls and floors, and require conformational sampling under the building when it is eventually demolished[2].

- A groundwater compliance monitoring program would be implemented until contaminant levels in all wells allow for unlimited used and unrestricted exposure.

The ROD specified that the soil and groundwater cleanup levels would be based upon the more stringent of NCP and MTCA standards. The EPA established the following cleanup levels consistent with the Washington Model Toxics Control Act (MTCA) Method B regulatory requirements:

Constituent	Soil (mg/kg)	Groundwater (μg/l)
Arsenic*	20.0	5
Barium	4,600.0	800
Cadmium	40.0	8
Chromium	400.0	80
Lead*	250.0	50
Nickel	1,600.0	320
Selenium	240.0	48
Cyanide	1,600.0	320
DDT*	2.9	.26

* As discussed in the ROD orchard contaminants appear to be an area wide problem and therefore these contaminants would be removed only if they co-occur with soil contaminated above cleanup goals for plating associated wastes.

The selected remedy eliminates the primary threat posed by the conditions at the site by reducing the potential for human exposure to metals in the site soils.

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[2] The ROD stated that in the event that removal of subsurface soils in the area of the septic tank drain pit and the area of MW-2, which are adjacent to the plating building, require extensive subsurface excavation then building demolition will be re-considered.

Removal Activities:

Because the RI/FS indicated that the extent of site contaminants was clearly defined and that excavation and offsite disposal would be straightforward, site remediation, as outlined in the ROD, was accomplished through the EPA removal program. The specific factors considered in coming to the decision to use removal authorities included the following:

1. The remedy primarily involved excavation and off-site disposal of soils, which could be easily and quickly implemented.

2. There were no requirements for design of treatment systems and no long term operation and maintenance for the site.

3. Standard EPA protocols existed for sampling and analysis of metal contaminated soils, which would enable the use of field screening techniques and rapid turnaround of laboratory analysis.

4. Actions levels for site cleanup were outlined in the Record of Decision for the site.

In February 1992 a request for a removal was made to the EPA Region 10 Response/Investigation Section and additional support was requested from EPA headquarters as a pilot project for accelerated site cleanup. These requests were subsequently approved by the Region 10 Response Section and EPA headquarters.

The Removal was formally initiated on June 15, 1992, upon approval of the Action Memorandum. The Removal was conducted as a combined effort between multiple EPA contractors. The Alternative Remedial Contracting Strategy (ARCS) support activities included advising the Remedial Project Manager, documenting field activities, and providing sampling support to verify attainment of the cleanup goals for the site. The Technical Assistance Team (TAT) provided support to the EPA OSC, which included performing sampling, providing field analytical screening, and conducting air monitoring. The EPA Emergency Response Cleanup Service contractor (ERCS), provided personnel and equipment to excavate contaminated soil and containerize plating wastes. ERCS also subcontracted for laboratory analytical, transportation, and disposal services.

EPA and the State of Washington conducted a final inspection on September 30, 1992. A letter dated September 25, 1992 (attached) from CET Environmental Services, Inc (the ERCS contractor) certified that the removal activities were performed according to the Delivery Order dated June 12, 1992 and included:

- Excavating 2,567 cubic yards of contaminated soil, gravels, and the drainfield pipe to the cleanup levels specified in the ROD, followed by off-site disposal to a hazardous waste landfill

- Excavation and removal to a hazardous waste landfill of three sedimentation tanks.

- Demolition and/or removal of three on-site buildings.

- Neutralization, and containerization of approximately 34 drums of miscellaneous plating-derived waste for off-site disposal. (All containerized wastes have been removed from the site and are currently in storage at a Hazardous Waste Storage Facility awaiting final disposal).

During soil excavation, appropriate measures were taken, including air monitoring for total particulates and respirable particulates and dust suppression, to ensure that contaminated materials did not become airborne. Confirmation groundwater monitoring will be conducted to insure that contaminant concentrations in groundwater do not exceed health-based standards.

Explanation of Significant Differences (ESD)

Significant differences exist between the removal activity and the selected remedy with regards to the excavated soil volume and institutional controls. This section will summarize and provide a rational for these differences.

Field conditions encountered during the removal activities differed somewhat from that reported by the owner of the property or identified during the RI/FS. The primary result of these differences was an increase[3] in the total soil volume excavated from the site in order to achieve the cleanup goals. The rational for this soil volume increase is discussed below.

Following the issuance of the ROD but prior to the removal, personnel from Yakima Plating identified an additional plating waste disposal area to the west of the plating building. The removal was expanded to allow excavation and removal of contaminated soils in excess of cleanup levels in this additional area.

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[3] The total volume of soil contamination estimated during the RI was 524 cubic yards, while the excavated volume in the removal was 2,567 cubic yards.

As excavation proceeded along the drainlines additional drain pipes and a second drainfield were uncovered. The discovery of these additional drainlines necessitated additional excavation and the demolition of a storage shed and removal of the office building.

Finally as the excavation progressed, visual observations, field screening, and laboratory analytical results indicated that significant soil contamination existed adjacent to the plating building. An attempt was made to preserve this structure as called for in the ROD; however, the depth of excavation and the cement block construction of the building made this option impractical and not cost effective (see footnote #2). The building slab floor was disposed as contaminated debris in the same manner as the contaminated soil. This debris along with significant sub floor contaminated soils further added to the overall soil volume increase.

As a result of the demolition of the plating building and removal of the contaminated subsurface soils beneath it EPA has determined that the institutional controls and compliance monitoring identified in the ROD associated with land use and the plating building are no longer necessary. All contaminated soils under this building were removed to health based levels.

The institutional controls for potential groundwater contamination may also be unnecessary based upon the achievement of cleanup goals for the entire site. However, a final determination on the necessity for these controls will be made upon completion of the groundwater monitoring.

Considering the results from the removal activities and the changes that were made to the selected remedy EPA believes that the remedy remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, and are cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable for this site.

Community Relations Activities:

Community Relations activities for this site have included the following: development of a community relations plan, meetings with local governmental officials, public meetings during the RI and remedy selection process, a public comment period for the proposed plan, and routine publication of progress facts sheets. A future fact sheet will be issued that will summarize the results from the ground water monitoring and outline future site activity, if any.

In general there has been very little public interest associated with the site. Yakima residents present at the public meeting on the proposed plan did not express a preference for a particular alternative, nor was there any opposition to the EPA preferred alternative.

III. DEMONSTRATION OF QA/QC FROM CLEANUP ACTIVITIES

With the exception of the differences discussed above in the ESD the removal activities at the site were consistent with the ROD and all workplans. The removal activity has been documented by E&E in the attached report titled "The Remedial Action Report, Yakima Plating, dated September 1992". This report describes the conformational sampling program and analytical results and incorporates all EPA and State Quality Assurance and Quality Control (QA/QC) procedures and protocol. Only EPA analytical methods were used for all validation and monitoring samples during the removal activities. Additional documentation of the removal activities will be provided in the OSC report.

The QA/QC program utilized through the Removal was sufficiently rigorous and was adequately complied with to enable EPA and the State to determine that analytical results reported are accurate to the degree needed to assure satisfactory execution of the Removal, consistent with the ROD.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

Three activities remain to be completed for the Yakima Plating site, including: receipt of final OSC report, completion of the close out report, and groundwater monitoring. These activities will be completed according to the following schedule:

Task	Estimated Completion Date	Responsible Organization
1. OSC report	December 1992	EPA
2. Final Close Out Report	January 1992	EPA
3. Groundwater Monitoring	September 1993	EPA/State

The OSC report will provide the final documentation of the removal activities and satisfy the requirements for final site closeout. Any new information in the OSC report will be documented in a final close out report. Groundwater monitoring is being conducted to confirm that the remedy was effective and to insure that contaminant levels in groundwater are below

applicable federal and state standards. A fact sheet will be issued upon completion of the final close out report.

There are no O&M activities to be performed. No hazardous substances were left on site allowing "unrestricted use and unlimited exposure" and therefore the five-year review requirement of Section 121(c) of SARA is not applicable.

V. PROTECTIVENESS

All the completion requirements for this site have been met as specified in OSWER Directive 9320.2-3A. Specifically, confirmatory sampling has verified that the ROD cleanup objectives have been achieved and all cleanup actions specified in the ROD have been implemented. Backfilling of the site with clean soil provides further assurance that the site no longer poses any threat to human health or the environment. Confirmatory groundwater sampling will be conducted to insure that no further action is required.

Randall F. Smith

Randall F. Smith, Director
Hazardous Waste Division

9/30/92
Date

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September 25, 1992

Mr. William Longston
U.S. EPA Region 10
1200 Sixth Avenue (HW-114)
Seattle, Washington 98101

Subject: Final Site Report for Delivery Order No. 0012-10-018,
1804 1/2 South Third Avenue, Yakima, Washington 98902

Dear Mr. Longston:

CET Environmental Services, Inc. (CET) received Delivery Order No. 0012-10-018 dated June 12, 1992 for the Yakima Plating Co. site. This Delivery Order stated the following items shall be furnished or supplied by CET:

- Mob necessary equipment and personnel to site.
- Conduct excavation and removal of hazardous substances and contaminated soils at OSC direction.
- Dispose of hazardous substances and contaminated soils according to OSC direction.
- Provide site security.
- Conduct sampling and arrange for laboratory analyses of samples at OSC's direction.
- Develop site safety plan to compliment EPA/TAT plan.
- Restore site to safe condition following cleanup as directed by OSC.

Mr. Bryan Chernick was assigned to this project as the Response Manager. The project start date was scheduled for June 15, 1992 and site activity began on June 15, 1992.

Report Summary

On June 15, 1992 CET mobilized a crew and equipment to the site and began moving bumpers and debris in preparation to excavate contaminated soil.

On June 16, 1992 began excavating contaminated soil in the drainfield on the North side of the plating shop office building. The excavation continued until July 23, 1992, in which time we excavated two drainfields, three sedimentation tanks, beneath and around the plating shop building and in a small area in the Southwest corner of the site. The second drainfield

was discovered when we were removing the large sedimentation tank, it ran West from the tank, under the plating shop storage shed. An additional drain line was later discovered running beneath the plating shop office building. The plating shop office and storage shed were both removed in order to excavate beneath them.

A much larger volume of soil was excavated than was anticipated in the remedial investigation report. This was due to the discovery of the second drainfield, the contamination beneath the plating shop building and the depth of the contamination. In the areas of the drainlines and the sedimentation tanks the contamination extended to groundwater, approximately 10 feet below ground surface.

Due to problems with screening the soil on site for contaminants, many more samples had to be sent out for analysis. This slowed the progress of the excavation and resulted in higher laboratory costs.

A total of three sedimentation tanks were discovered in the area North of the plating shop building. Two of these tanks were hooked up to the plating shop buildings and the drainfields. The third sedimentation tank was connected to the Autocraft Paint and Body works building and did not have an associated drainfield. It did, however, act as a conduit for contamination and had to be removed. The concrete tanks were pumped of their liquids, crushed and added to the soil stockpile as debris.

On June 27, 1992 monitoring well MW-2 was abandoned to Washington Department of Ecology specifications by a licensed driller.

On June 27, 1992 a subcontractor was employed to demolish the plating shop building and haul the debris away. The option to use sheet-piling type shoring was considered to save the building while we excavated next to it at depth. This option, however, was abandoned because we would have left contamination under the building and the cost was more. All of the building was determined to be clean except the floor and a wall that is shared by the neighboring paint shop. On June 29, 1992 the plating shop floor was removed by CET to gain access to the contaminated soil beneath it. On July 7 and 8 1992 two coats of epoxy were painted on the remaining wall to seal in the contamination.

Prior to demolishing the plating shop building all of the plating waste was removed from the building. The waste was containerized into 55 gallon drums and removed to a separate location on site. The vats were crushed and disposed of as debris with the contaminated soil. The acids were all neutralized prior to being containerized by stirring in a solution of water and sodium bicarbonate or sodium hydroxide. Sodium hydroxide worked the best because it required less volume and didn't foam. Sodium bicarbonate was used, even though the reaction was more difficult to control due to foaming, because it was more readily available in town.

On July 8, 1992 CET poured a concrete pad for truck scales to weigh the trucks as they left the site. Due to the unexpected use of quad axle trucks, which the scales could not handle, we were forced to use the scales at a nearby truck stop.

On July 14, 1992 trucks began hauling the contaminated soil to the Chemical Waste Management disposal facility in Arlington, Oregon. A total of 3,848 tons were disposed of, the last load being hauled off on July 29, 1992.

Began backfilling the excavation on July 23, 1992 with pit run fill material. A total of 3,311 tons of fill material was delivered. The top of the site was covered with a silt/sand mixed with topsoil from the site.

On July 30, 1992, CET demobilized the crew and equipment from the site. As of September 30, 1992, the drums of plating waste were removed from the site for disposal.

DELIVERY ORDER COSTS

Labor:	$ 76,801.25
Subsistence:	5,778.50
Equipment:	2,284.80
Materials:	32,695.06
Laboratory Analyses:	127,567.00
Outside Consultants:	850.00
Transportation:	0.00
Disposal:	456,647.08
Other Direct Costs:	59,593.02
TOTAL	$762,216.71

ATTACHMENTS

A. Site Health and Safety Plan
B. Log Book Entries

Should you have any questions regarding this report please contact me at (206) 525-9168.

Sincerely,

Bryan Chernick
Response Manager